

CHAPTER 103  
SANITARY LANDFILLS: COAL COMBUSTION RESIDUE

[Prior to 7/1/83, DEQ Ch 28]

[Prior to 12/3/86, Water, Air and Waste Management [900]]

**567—103.1(455B) Coal combustion residue landfills.** The following are the minimum requirements for siting, designing, and operating a solid waste landfill accepting only coal combustion residue.

This chapter stands alone and is not affected by references in other rules, except for the variance provision in 567—101.2(455B). “Coal combustion residue” means any solid waste produced by the burning of coal, either by itself or in conjunction with natural gas or other carbon-based fuels. “Coal combustion residue” includes, but is not limited to, bottom ash, fly ash, slag and flue gas desulfurization system material generated by coal combustion and associated air pollution control equipment.

**103.1(1) Site requirements.**

a. The site cannot be a wetland, cannot be within a 100-year flood plain and cannot have any sink-holes or similar karst features.

b. No wastes shall be deposited within 300 feet of an inhabitable residence or a commercial enterprise, unless there is a written agreement with the property owner(s) allowing a lesser distance, or within 50 feet of the property boundary. The written agreement shall be filed with the county recorder for abstract of title purposes and a copy shall be submitted to the department.

c. All waste must be a minimum of 5 feet above the high groundwater table.

**103.1(2) Permit application requirements.** The application for a permit shall include the following:

a. A completed application Form 50.542-1542.

b. A copy of the letter from the waste management assistance division approving the comprehensive plan required by 567—101.5(455B).

c. Proof of legal entitlement to use the property as proposed.

d. A topographic map of the site and the adjacent area within 300 feet of the site, with contour intervals not exceeding 10 feet, that shows the location of existing improvements or alterations such as structures, wells, lakes, roads, drain tiles or similar items. The highest point of elevation on the site shall also be identified and given.

e. The results of a minimum of three soil borings for sites of ten acres or less with one additional boring for each additional three acres to determine the hydrogeologic conditions and establish the direction of groundwater flow throughout the site and the minimum depth to groundwater on the site.

f. An adequate number of representative groundwater sample results, minimum of three locations with one sample from each location, to fully characterize the groundwater quality at the site. The following are the analytical parameters that are required to characterize groundwater quality and establish a baseline for those parameters: arsenic, barium, beryllium, cobalt, copper, iron, lead, magnesium, manganese, selenium, zinc, chlorides, and sulfate. The analysis shall be for dissolved metals with filtering in the field.

g. Construction drawings and specifications of the improvements and alterations that are to take place on the site such as roads, structures, utilities, drainage ways, gates and fences.

h. A copy of the local siting approval required by Iowa Code section 455B.305A.

**103.1(3) Design criteria.**

a. The design of a coal combustion residue solid waste landfill shall contain a method for ensuring protection of the groundwater and surface water.

b. The design plan shall include a method of ash transportation that prevents blowing ash and a method for preventing blowing dust and air emissions when the ash is unloaded.

c. Surface runoff must be diverted from all active or closed areas, both during the active life of the facility and during the postclosure period.

d. The site must be secured with a fence and gate(s) to prevent unauthorized entry when the site is unattended.

e. The site must have all-weather access roads adequate to accommodate all delivery vehicles and operating equipment.

f. The site must be fenced and gated in a manner that will prevent unauthorized deposition of wastes at the site.

**103.1(4) *Operating requirements.***

a. An operation plan shall be prepared and submitted to the appropriate department field office prior to initiating operations. The plan, at a minimum, shall include:

(1) An identification of the area to be filled during the period for which a permit is being requested.

(2) The method(s) that will be utilized to prevent illicit municipal or putrescible solid wastes from being deposited as a result of mixing with authorized waste brought to the site.

(3) The frequency, extent and method of spreading and compacting the waste; the optimum layer thickness; and the size and slope of the operating face.

(4) A description of the operating procedures that will be followed when wastes are brought to the site.

(5) If removal of waste from the landfill for beneficial reuse is intended, that activity should be addressed in the original operation plan. If the permit holder decides to remove waste after completion of the original operation plan, the plan must be amended prior to removing any waste.

b. After the waste is deposited, it must be treated as necessary to control fugitive dust that would leave the site and to control erosion that would impact operations in the active fill area. If the methods used do not adequately control dust and erosion, the department may require site-specific controls including a soil cover.

c. A minimum of one down gradient monitoring well must be installed within one year of initiating operations. Additional wells may be required when it is apparent that more than one potential contaminant pathway exists. Monitoring wells will normally be placed within 50 feet of the waste boundary.

d. Quarterly sampling of all monitoring wells and analysis for the parameters specified in paragraph 103.1(2) "f" shall commence within one year of initiating operations for the purpose of establishing the average baseline concentrations for each well. Annual sampling of all monitoring wells for the parameters specified in paragraph 103.1(2) "f" shall commence within one year of completing the quarterly baseline monitoring. Additional sampling or a site assessment may be required by the department when there is an exceedance of any primary or secondary Maximum Contaminant Level (MCL) or the Health Advisory Level (HAL) of the Drinking Water Standards and Health Advisories of the federal Environmental Protection Agency. When an MCL or HAL does not exist for a parameter and a sample analysis exceeds the average value for that parameter for the most recent two years of data, the department will require the collection and analysis of a sample for three consecutive months. If the average result of those sample analyses equals or exceeds the value that required the monthly samples to be collected, the department may require a site assessment.

e. A report of the groundwater monitoring results shall be submitted to the department by the end of the first year's operation and annually thereafter.

**103.1(5) *Closure/postclosure requirements.***

a. The owner/operator shall submit a postclosure plan to the department 180 days prior to closure. The plan shall list the date of closure, the actions that will be taken to close the site, the final site contours and final cover design, and the parties responsible for postclosure maintenance.

b. The final cover shall consist of not less than two feet of compacted soil and one foot of uncompacted soil capable of sustaining a growth of common grasses.

c. The slope of the landfill area after final closure shall be not less than 3 percent or more than 25 percent.

*d.* A growth of common grasses shall be established on the final cover by the end of the first full growing season.

*e.* A minimum of one sample from each monitoring well shall be collected annually during the postclosure period and analyzed for the parameters specified in the permit. The results shall be included in the annual report.

*f.* After closure, an annual inspection of the site shall be conducted. Any differential settling, surface cracks, holes, erosion channels, or any interference with surface drainage shall be corrected by restoration to the original condition. A report on the findings and corrective actions taken shall be included in the annual report. These postclosure actions are required for a minimum of ten years following closure. The department may extend the monitoring and reporting period if it appears that continued maintenance and monitoring are warranted.

**103.1(6) Permit renewal.** The term for a permit to operate a solid waste landfill accepting only coal combustion residue waste shall be ten years, and the permit shall be renewable for a similar term.

### **567—103.2(455B) Emergency response and remedial action plans.**

**103.2(1) Purpose.** The purpose of this rule is to implement Iowa Code section 455B.306(6)“*d*” by providing the criteria for developing a detailed emergency response and remedial action plan (ERRAP) for permitted sanitary disposal projects.

**103.2(2) Applicability.** The requirements of this rule apply to the owners or operators of all sanitary landfills.

#### **103.2(3) Submittal requirements.**

*a.* The owner or operator of facilities that are subject to this rule and have been permitted prior to October 24, 2001, shall submit a complete detailed ERRAP that meets the requirements set forth in this rule no later than December 31, 2001.

*b.* Applications for a new permit after October 24, 2001, shall incorporate a complete detailed ERRAP that meets the requirements set forth in this rule.

*c.* An updated ERRAP that meets the requirements of this rule shall be submitted at the time of each permit renewal or permit reissuance application that is due after December 31, 2001.

*d.* An updated ERRAP shall be included with any request for permit modification to incorporate a facility expansion or significant changes in facility operation that require modification of the currently approved ERRAP.

*e.* Facilities that submitted an ERRAP meeting the requirements defined under Iowa Code section 455B.306(6)“*d*” by May 1, 2001, including regional collection centers that, prior to this date, have met the contingency plan submittal requirement described in 567—Chapter 211, and were approved by the department prior to October 24, 2001, are not required to submit an updated ERRAP that meets the requirements of this rule until the next permit renewal application due date after December 31, 2001.

*f.* Three sets of ERRAP documents shall be submitted for department approval.

**103.2(4) Content.** The content of ERRAP documents shall be concise and readily usable as a reference manual by facility managers and operators during emergency conditions. The ERRAP document content shall address at least the following primary issues in detail, unless project conditions render the specific issue as not applicable. The rationale for exclusion of any issue areas that are determined not to be applicable must be provided in either the body of the plan or as a supplement to facilitate department review. Additional emergency response and remedial action plan requirements unique to the facility shall be addressed, as applicable.

#### *a. Facility information.*

- (1) Permitted agency.
- (2) DNR permit number.
- (3) Facility description.

- (4) Responsible official and contact information.
- (5) Project location.
- (6) Site and environs map.
- b. Regulatory requirements.*
- (1) Iowa Code section 455B.306(6)“d” criteria citation.
- (2) Reference to provisions of the permit.
- c. Emergency conditions—response activities—remedial action.*
- (1) Failure of utilities.
  - 1. Short-term (48 hours or less).
  - 2. Long-term (over 48 hours).
- (2) Weather-related events.
  - 1. Tornado.
  - 2. Windstorms.
  - 3. Intense rainstorms and erosion.
  - 4. Lightning strikes.
  - 5. Flooding.
  - 6. Event and postevent conditions.
- (3) Fire and explosions.
  - 1. Waste materials.
  - 2. Buildings and site.
  - 3. Equipment.
  - 4. Fuels.
  - 5. Utilities.
  - 6. Facilities.
  - 7. Working area.
  - 8. Hot loads.
  - 9. Waste gases.
  - 10. Evacuation.
- (4) Regulated waste spills and releases.
  - 1. Waste materials.
  - 2. Leachate.
  - 3. Waste gases.
  - 4. Waste stockpiles and storage facilities.
  - 5. Waste transport systems.
  - 6. Litter and airborne particulates.
  - 7. Site drainage systems.
  - 8. Off-site releases.
- (5) Hazardous material spills and releases.
  - 1. Load check control points.
  - 2. Mixed waste deliveries.
  - 3. Fuels.
  - 4. Waste gases.
  - 5. Site drainage systems.
  - 6. Off-site releases.
- (6) Mass movement of land and waste.
  - 1. Earthquakes.
  - 2. Slope failure.
  - 3. Waste shifts.
  - 4. Waste subsidence.

- (7) Emergency and release notifications and reporting.
  - 1. Federal agencies.
  - 2. State agencies.
  - 3. County and city agencies.
  - 4. News media.
  - 5. Public and private facilities with special populations within five miles.
  - 6. Emergency response agencies and contact information.
  - 7. Reporting requirements and forms.
- (8) Emergency waste management procedures.
  - 1. Communications.
  - 2. Temporary discontinuation of services—short- and long-term.
  - 3. Facilities access and rerouting.
  - 4. Waste acceptance.
  - 5. Wastes in process.
- (9) Primary emergency equipment inventory.
  - 1. Major equipment.
  - 2. Fire hydrants and water sources.
  - 3. Off-site equipment resources.
- (10) Emergency aid.
  - 1. Responder contacts.
  - 2. Medical services.
  - 3. Contracts and agreements.
- (11) ERRAP training requirements.
  - 1. Training providers.
  - 2. Employee orientation.
  - 3. Annual training updates.
  - 4. Training completion and record keeping.
- (12) Reference tables, figures and maps.

These rules are intended to implement Iowa Code section 455B.304.

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